Firebreak (Feet) 394

DEFINITION

A strip of bare land or vegetation that retards fire.

PURPOSES

- To prevent the spread of wildfire.
- To control prescribed burns.

CONDITIONS WHERE PRACTICE APPLIES

All land uses where protection from wildfire is needed or prescribed burning is applied.

CRITERIA

General Criteria Applicable To All Purposes

- Firebreaks may be temporary or permanent and shall consist of fire-resistant vegetation, non-flammable materials, bare ground, or a combination of these.
- Firebreaks will be of sufficient width and length to contain the fire.
- Firebreaks shall be located to minimize risk to the resources being protected.
- Plant species selected for vegetated firebreaks will be non-invasive, comprised of attributes making them capable of retarding fire, and easy to maintain.
- Erosion control measures shall prevent sediment from leaving the site.
- Comply with applicable laws and regulations, including the best management practices listed in the publication: Water Quality Management Practices on Forestland in Michigan.

Criteria For Firebreaks

SOD FIREBREAKS - Develop and maintain natural or planted herbaceous firebreaks by fertilizing, mowing, watering, or grazing strips (legumes, grasses, clover, field rye, or wheat) a minimum of 15-20 feet wide. Clearing and cutting should control woody plants, or application of approved herbicide.

BARE GROUND OR MINERAL SOIL - Develop non-vegetated barriers on the contour or on short and gentle slopes that will keep erosion below the allowable soil loss. The strips should be a minimum of 15 feet wide and prepared and maintained by plowing and/or periodic discing. Tilled barriers developed to prevent the spread of a controlled burn or wildfire shall be revegetated if there is no further need for the firebreak. See Michigan NRCS Standards 342 - Critical Area Planting or 655 - Forest Harvest Trails and Landings for seeding recommendations.

BURNED FIREBREAKS - A common type of firebreak is a black-line strip that is burned to remove most fuels prior to burning. Burned strips shall be a minimum of 15 feet wide and sufficient to control a high intensity head fire. This width will be determined by local conditions dependent on topography, fuel type, and uses to be protected.

CHEMICAL AND FOAM RETARDANTS - Chemical and foam retardants are usually applied to the fireline just prior to initiation. A drawback is the need for a second crew and for special equipment. In addition, the cost of material can be expensive.

WETLINES - Wetlines are similar to applying chemical and foam retardants, except that the water can be applied at lower cost and with simpler equipment. Unlike retardants, wetlines can evaporate quickly, requiring more caution and frequent wetting to remain effective.

CONSIDERATIONS

- Use barriers such as streams, lakes, ponds, rock outcrops, cliffs, field borders, skid trails, landings, drainage canals, railroads, roads, cultivated land, or other areas as existing firebreaks.
- Locate firebreaks on the contour, where possible, to minimize risk of soil erosion.
- Establish vegetation according to Michigan NRCS Standard 342 - Critical Area Planting.
- If vegetative firebreaks are selected, preference should be given to native species in order to reduce the introduction of invasive plant species;

provide management of existing invasive species; and minimize the economic, ecological, and human health impacts that invasive species may cause. If native plant materials are not adaptable or not proven effective for the planned use, then non-invasive species may be used. Refer to the Michigan Field Office Technical Guide, Section I, Invasive Plant Species for plant materials identified as invasive species.

- Attempt to locate firebreaks near crests and valley bottoms. If winds are predictable, firebreaks should be located perpendicular to the wind and on the windward side of the area to be protected.

- Select plant species that provide wildlife habitat if they are capable of providing a satisfactory firebreak.

- Design and layout should include multiple uses.

- Consider cultural resources when planning this practice. This practice may adversely affect cultural resources and should comply with USDA-NRCS General Manual, Section 420, Part 401, during planning, prior to installation, and during maintenance.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets; job sheets; technical notes; and narrative statements in the conservation plan, burn plan, or other acceptable documentation. Specifications will include, but are not be limited to, the following items:

- The planned width of the firebreak.
- The method of working ground if firebreak is to be bare ground.
- Identification of any erosion control measures needed for implementation and operation of the firebreak.
- Identification of vegetation to be planted if firebreak is to be vegetated; site preparation; method(s) of planting; the seeding, mulching, and fertilization rates required; and timing of the planting.

If firebreak is to be burned, a burn plan will be approved with all needed permits obtained and carried out under the direction and/or concurrence of the appropriate local or state authorities prior to proceeding. Refer to Michigan NRCS Standard 338 - Prescribed Burning and Michigan Conservation Sheet 338 - Prescribed Burning for further details.

OPERATION AND MAINTENANCE

Mow or graze vegetative firebreaks to avoid a build-up of dead litter and to control weeds.

Inspect for and remove woody materials such as dead limbs and blown down trees from firebreak.

Inspect annually and rework bare ground firebreaks, as necessary, to keep them void of flammable vegetation.

Inspect annually and rework erosion control measures, as necessary, to ensure proper function.

Access by vehicles or people will be controlled to prevent damage to the firebreak.

Bare ground firebreaks which are no longer needed will be stabilized. See Michigan NRCS Standard 342 - Critical Area Planting and/or 655 - Forest Harvest Trails and Landings for seeding recommendations.

REFERENCES

Higgins, K.F.; Kruse, A.D.; Piehl, J.L.; 1989. Prescribed Burning Guidelines in the Northern Great Plains. U.S. Fish and Wildlife Service. Cooperative Extension Service-SDSU. USDA EC 760.